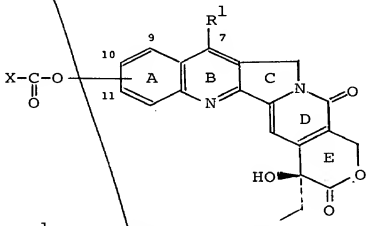
WHAT IS CLAIMED IS:

1. New camptothecin derivatives of the general formula:



(I)

wherein R^1 is a hydrogen atom, a halogen atom or an alkyl group with 1-4 carbon atoms and X is a chlorine atom or $-NR^2R^3$ where R^2 and R^3 are the same or different and each represents a hydrogen atom, a substituted or unsubstituted alkyl group with 1-4 carbon atoms or a substituted or unsubstituted carbocyclic or heterocyclic group, with the proviso that when both R^2 and R^3 are the substituted or unsubstituted alkyl groups, they may be combined together with the nitrogen atom, to which they are bonded, to form a heterocyclic ring which may be interrupted with -O-, -S- and/or $>N-R^4$ in which R^4 is a hydrogen atom, a substituted or unsubstituted alkyl group with 1-4 carbon atoms or a substituted or unsubstituted phenyl group and wherein the grouping -O-CO-X is bonded to a carbon atom located in any of the 9-, 10- and 11-positions in the ring A,
as well as an ammonium salt or an alkali metal salt thereof.

2. New camptothecin derivatives according to claim 1, wherein R^2, R^3 or R^4 in case of the alkyl group is substituted by one or more substituents selected from the following atoms and/or groups:

(A) -F, -Cl, -Br and -I,

(B) -OH and $-OR^5$,

(C) $-COOR^6$, $-SO_3R^6$ and $-PO_3(R^6)_2$,

(D)  and  ,

(E) $-NR^8R^9$ and $-CONR^8R^9$, and

(F) $-Q-A-OR^5$, $-Q-A-NR^8R^9$ and $-Q-A-Q-R^5$

wherein R^5 is an alkyl group with 1-4 carbon atoms or a phenyl group which may be substituted by a halogen atom or an alkyl group with 1-4 carbon atoms, R^6 is a hydrogen atom or an alkyl group with 1-4 carbon atoms, R^7 is a hydrogen atom, a halogen atom, an alkyl group with 1-4 carbon atoms or an alkoxy group with 1-4 carbon atoms, n is an integer of 1-3, R^8 and R^9 are the same or different and each represents a hydrogen atom or an alkyl group with 1-4 carbon atoms with the proviso that when both R^8 and R^9 are the alkyl groups, they may be combined together with the nitrogen atom, to which they are bonded, to form a heterocyclic group which may be interrupted with -O-, -S- or $>N-R^6$, Q is the grouping -O-CO- or -CO-O-, and A is a straight or branched chain alkylene group with 1-4 carbon atoms.

3. 9-Chlorocarbonyloxy-7-R^1-camptothecins.

4. 10-Chlorocarbonyloxy-7-R^1-camptothecins.

5. 11-Chlorocarbonyloxy-7-R^1-camptothecins.

6. 9-[N-R^8-N-(R^8R^9amino)C_{1-4}alkyl]carbonyloxy-7-R^1-camptothecins

7. 9-(4-R^4-piperazino)carbonyloxy-7-R^1-camptothecins.

8. 9-(R^8R^9N-C_{1-4}-alkyl)carbonyloxy-7-R^1-camptothecins.

9. 9-[4-(1-piperidino)-1-piperidino]carbonyloxy-7-R^1-camptothecins.

10. 10-C_{1-4}-alkylaminocarbonyloxy-7-R^1-camptothecins.

11. 10-(di-C_{1-4}-alkylamino)carbonyloxy-7-R^1-camptothecins.

12. 10-(4-R^4-piperazino)carbonyloxy-7-R^1-camptothecins.

13. 10-(R^8R^9N-C_{1-4}-alkyl)carbonyloxy-7-R^1-camptothecins.

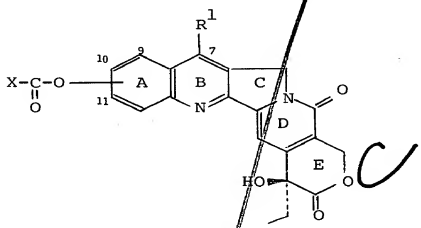
14. 10-[4-(1-piperidino)-1-piperidino]carbonyloxy-7-R^1-camptothecins.

15. 11-[N-C_{1-4} alkyl-N-(R^8R^9amino)C_{1-4}alkyl]carbonyloxy-7-R^1-camptothecins.

16. 11-(4-R^4-piperazino)carbonyloxy-7-R^1-camptothecins.

17. 11-[4-(1-piperidino)-1-piperidino]carbonyloxy-7-R^1-camptothecins.

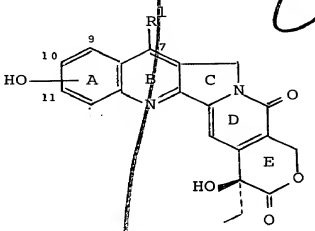
18. A process for the preparation of new camptothecin derivatives of the general formula:



(I)

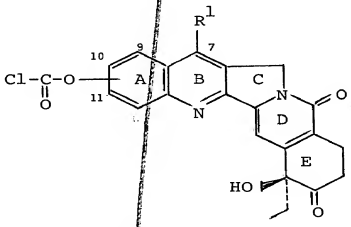
wherein R^1 is a hydrogen atom, a halogen atom or an alkyl group with 1-4 carbon atoms and X is a chlorine atom or $-NR^2R^3$ where R^2 and R^3 are the same or different and each represents a hydrogen atom, a substituted or unsubstituted alkyl group with 1-4 carbon atoms or a substituted or unsubstituted carbocyclic or heterocyclic group, with the proviso that when both R^2 and R^3 are the substituted or unsubstituted alkyl groups, they may be combined together with the nitrogen atom, to which they are bonded, to form a heterocyclic ring which may be interrupted with -O-, -S- and/or $>N-R^4$ in which R^4 is a hydrogen atom, a substituted or unsubstituted alkyl group with 1-4 carbon atoms or a substituted or unsubstituted phenyl group and wherein the grouping -O-CO-X is bonded to a carbon atom located in any of the 9-, 10- and 11-

positions in the ring A,
as well as ammonium salts or alkali metal salts thereof,
which comprises reacting a hydroxycamptothecin derivative of the general formula:



(II)

wherein R^1 has the same meaning as given above and the hydroxy group OH is bonded to a carbon atom located in any of the 9-, 10- and 11-positions in the ring A,
with phosgen to form a chlorocarbonyloxycamptothecin derivative of the general formula:



(III)

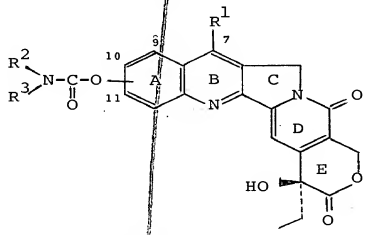
wherein R^1 has the same meaning as given above and the grouping Cl-CO-O- is bonded to a carbon atom located in any of the 9-, 10- and 11-positions in the ring A,
and, if necessary, treating the chlorocarbonyloxycamptothecin derivative with an amine of the general formula:

(IV)

wherein R^2 and R^3 have the same meaning as given above, and if desired, converting R^2 and/or R^3 in the resultant aminocarbonyloxycamptothecin derivative of the general formula (I) where X is $-N<^{R^2}_{R^3}$ into another R^2 and/or R^3 by N-alkylation or O-alkylation according to the method known per se and/or converting the resultant aminocarbonyloxycamptothecin derivative into an ammonium salt thereof with an acid or into an alkali metal salt thereof with a strong alkali metal base.

19. A process according to claim 18, wherein the reaction is carried out in the presence of an anhydrous solvent and an acid-binding agent.

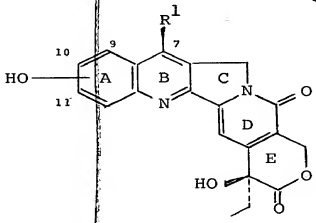
20. A process for the preparation of new camptothecin derivatives of the general formula:



(I')

wherein R^1 is a hydrogen atom, a halogen atom or an alkyl group with 1-4 carbon atoms and R^2 and R^3 are the same or different and each represents a hydrogen atom, a substituted or unsubstituted alkyl group with 1-4 carbon atoms or a substituted or unsubstituted carbocyclic or heterocyclic group with the proviso that when both R^2 and R^3 are the substituted or unsubstituted alkyl groups, they may be combined together with the nitrogen atom, to which they are bonded, to form a heterocyclic ring which may be interrupted with -O-, -S- and/or $>N-R^4$ in which R^4 is a hydrogen atom, a substituted or unsubstituted alkyl group

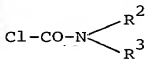
with 1-4 carbon atoms or a substituted or unsubstituted phenyl group and wherein the grouping $-O-CO-N<^{R^2}_{R^3}$ is bonded to a carbon atom located in any of the 9-, 10- and 11-positions in the ring A, as well as ammonium salts or alkali metal salts thereof, which comprises reacting a hydroxycamptothecin of the general formula:



(II)

wherein R^1 has the same meaning as given above and the hydroxy group OH is bonded to a carbon atom located in any of the 9-, 10- and 11-positions in the ring A,

with a carbamoyl chloride of the general formula:



(V)

wherein R^2 and R^3 have the same meanings as given above, and if desired, converting R^2 and/or R^3 in the resultant aminocarbonyloxycamptothecin derivative of the general formula (I') into another R^2 and/or R^3 by O-alkylation or N-alkylation according to the method known per se and/or converting the resultant aminocarbonyloxycamptothecin derivative into an ammonium salt thereof with an acid or into an alkali metal salt thereof with a strong alkali metal base.

21. A process according to claim 20, wherein the reaction is carried out in the presence of an aprotic solvent and an acid-binding agent.

22. A process according to claim 20, wherein the carbamoyl chloride is used in a theoretical excess amount.

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